

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P123686

Luminaire Tested: **EL406930-TL411BB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P123686  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P13980)  
Test Lab: INNOVATION CENTER-P1  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: EL406930-TL411BB  
Description: HALO 4-INCH RECESSED LED DOWNLIGHT  
BLACK BAFFLE, DIFFUSE DROP LENS AND WHITE TRIM RING  
Light Source: (1)SURFACE MOUNT LED, 3000K CCT, 90CRI  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

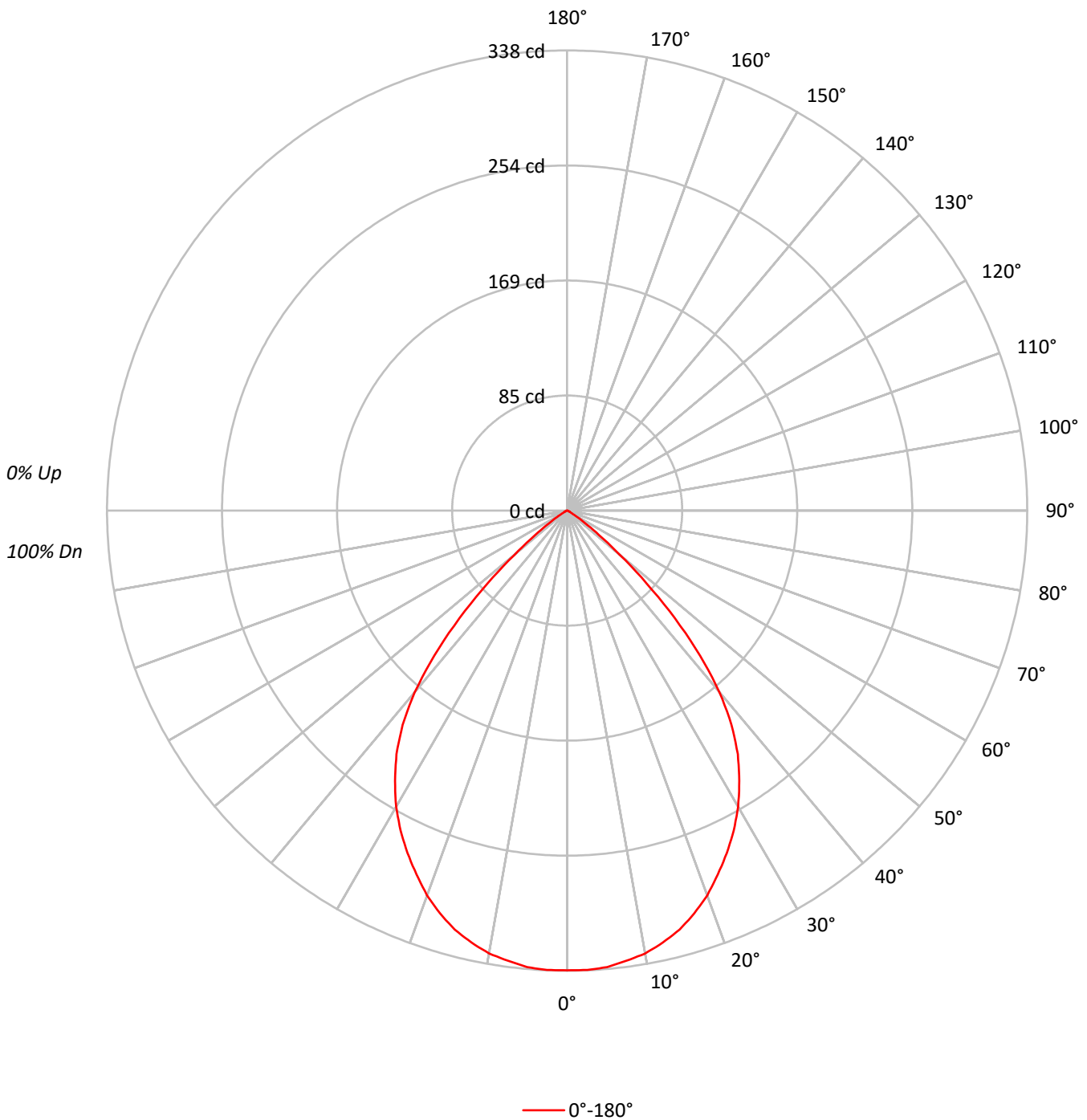
Lumens per Lamp: N/A  
Luminaire Lumens: 490.0 lumens  
Efficiency: N/A  
Efficacy: 37.7 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.15  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 13  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	113	110	107	104	110	107	105	103	103	101	99		100	98	96		96	95	94	92
2	106	100	96	92	104	99	95	91	95	92	89		92	90	87		90	87	85	83
3	100	92	86	82	97	91	85	81	88	84	80		86	82	79		83	80	77	76
4	93	85	78	73	91	84	78	73	81	76	72		79	75	71		77	73	70	69
5	88	78	71	66	86	77	71	66	75	70	65		73	69	65		72	67	64	62
6	82	72	65	60	81	71	65	60	70	64	59		68	63	59		67	62	59	57
7	77	67	60	55	76	66	59	55	64	59	54		63	58	54		62	57	54	52
8	73	62	55	50	71	61	55	50	60	54	50		59	54	50		58	53	49	48
9	69	57	51	46	67	57	50	46	56	50	46		55	50	46		54	49	46	44
10	65	54	47	43	64	53	47	43	52	46	42		51	46	42		51	46	42	41

**AVERAGE LUMINANCE (cd/sqm):**

	0°
0°	74051
5°	74092
10°	73546
15°	72350
20°	70193
25°	67141
30°	63605
35°	58491
40°	49836
45°	34701
50°	17296
55°	6040
60°	1842
65°	1090
70°	705
75°	932
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.9	6.5
10°-20°	89.5	18.3
20°-30°	127.5	26.0
30°-40°	134.9	27.5
40°-50°	85.4	17.4
50°-60°	17.8	3.6
60°-70°	2.0	0.4
70°-80°	1.0	0.2
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	248.9	50.8
0°-40°	383.8	78.3
0°-60°	487.1	99.4
0°-90°	490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	490.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	338	
5°	337	32
15°	319	90
25°	278	128
35°	218	135
45°	112	85
55°	16	18
65°	2	2
75°	1	1
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	337.7
2.5°	337.7
5°	336.6
7.5°	333.5
10°	330.3
12.5°	325.0
15°	318.7
17.5°	310.3
20°	300.8
22.5°	289.2
25°	277.5
27.5°	264.9
30°	251.2
32.5°	235.3
35°	218.5
37.5°	198.4
40°	174.1
42.5°	144.6
45°	111.9
47.5°	79.1
50°	50.7
52.5°	29.5
55°	15.8
57.5°	8.4
60°	4.2
62.5°	2.1
65°	2.1
67.5°	1.1
70°	1.1
72.5°	1.1
75°	1.1
77.5°	1.1
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)